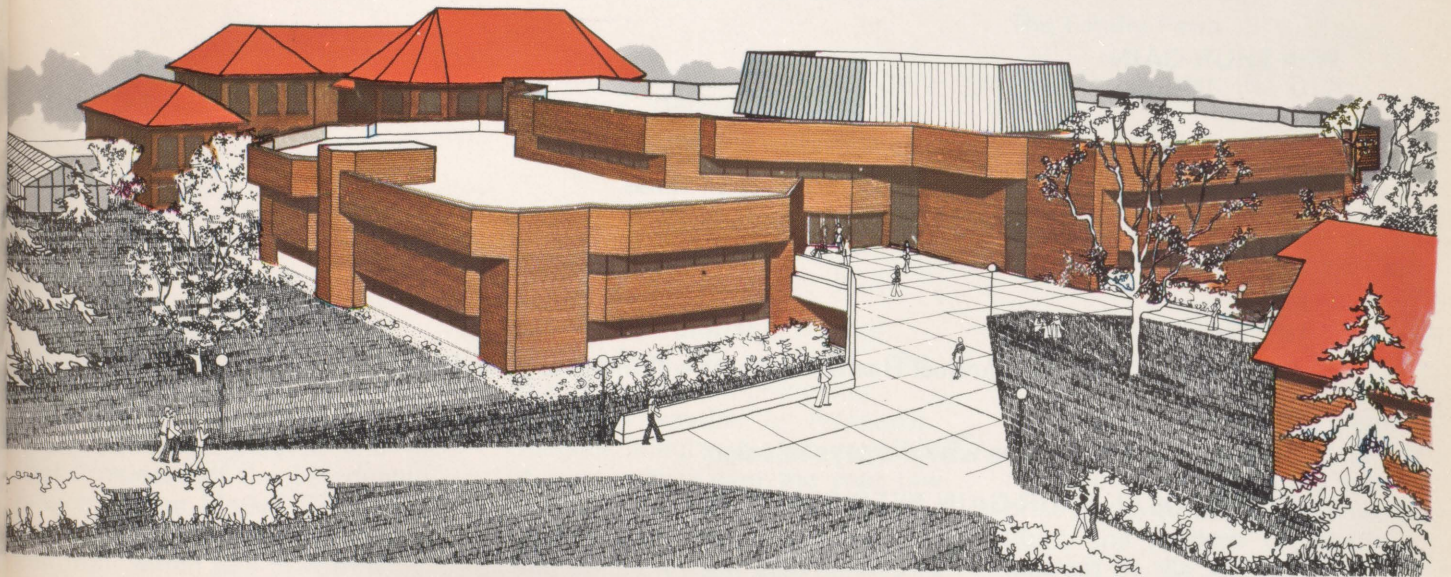


THE macdonald JOURNAL

DECEMBER 1976

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THE macdonald Journal

DECEMBER 1976

Macdonald Journal
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Journal Jottings

The past, the present, and the future are intertwined in this issue. A former student and the Past President of the Macdonald Branch of the McGill Graduates' Society has written the Guest Editorial, which ties in with a special composite feature consisting of five short articles which, in turn, are linked to our cover depicting the new building for Macdonald College now under construction. The articles are on the recent cornerstone unveiling ceremony, a tree planting ceremony, the Macdonald Agriculture Campaign, and a look at the plans for the new building.

There is a futuristic ring to "2000 AD — Hot or Cold?", the title of a thought-provoking article on weather by Professor Douglas. Judging by the variability of our weather over the past few years, we can well appreciate Professor Douglas's concern. That concern must also be shared by some of the plant and animal scientists on this campus; we hope to bring you their comments in future issues.

A '76 graduate contributed the article "Guinea Fowl for Canada!" As interest in these birds has been shown by some of our readers, we

were pleased that Jan Cadieux sent in her article.

Good reading wrapped in a colourful cover seems appropriate for the December issue. It's appropriate, too, to thank our contributors and readers for their interest in the Journal during the past year and to wish you all a happy Christmas and prosperous New Year. For all, and especially for those who have been beset by illness or are shut-in, I earnestly pray that you will receive the greatest gift of all — good health.

Hazel M. Clarke

New Horizons for '76

Macdonald College is a name which draws the attention of many practising farmers of this province and elsewhere. In addition, it connotes a contribution through the development of people and research well beyond the confines of its particular sphere of influence.

In a situation of world-wide shortage, there is a need of the Macdonald contribution to find greater depth and breadth. The relocation of the central core of the Macdonald campus as well as improvement in facilities available to research and teaching are the focus of the Macdonald Agricultural Campaign (see page 4).

Macdonald graduates have been pleased to be involved in the McGill University effort, supported by David Stewart, to establish a new central facility on the campus. To this end a symbolic cornerstone ceremony took place last October 16 in which representatives of the full range of the Macdonald community were pleased to add their support to the proposals endorsed by Conrad Harrington, Chancellor of McGill University, Dr. R. E. Bell, Principal, and Dr. A. C. Blackwood, Vice-Principal of Macdonald College.

The Macdonald Agricultural Campaign Committee, headed by Murray McEwen as Chairman, involves Macdonald graduates, staff, and many friends of the College.

Their purpose will be to tell the story of Macdonald and seek the financial support of every element of the Agricultural community and its offshoots.

The Macdonald contribution is directed to the benefit of society both in the sense of the effects of its work to further commercial enterprise, but of much greater purpose it is concerned with the dissemination of knowledge directed towards the health and well-being of man as a thinking and living organism.

The efforts to meet the above objectives will result in a spin-off

involving provisions for an environment suited to the growth of young and active minds.

The support of all of us is required, and it is hoped that we will respond in a manner which will guarantee the attainment of Macdonald objectives and provide a significant contribution to the future development of agriculture in Quebec, Canada, and around the world.

Irving Slack,
Past President
Macdonald Branch of
the McGill Graduates' Society



Irving Slack (right), as President of the Macdonald Branch of the Graduates' Society, made a presentation to Dr. R. E. Bell, Principal and Vice-Chancellor of McGill University. This presentation was made to Dr. Bell in recognition of his sustained efforts to provide for a plan for the redevelopment of the Macdonald Campus.

Cornerstone for the Macdonald Stewart Building is Unveiled By One of Mac's Oldest Grads

A colourful cornerstone ceremony on the Macdonald College campus, October 16th, followed by a reception at the Centennial Centre, were the opening events of the Reunion '76 program which attracted the largest number of graduates to the Macdonald campus in recent history.

The well attended ceremony marked the early stage of construction of the new \$7.2 million Macdonald Stewart Building for the Faculty of Agriculture and School of Food Science. Excavation for the new building was completed on schedule; due to a prolonged strike in the construction industry, the foundation work was not completed in time to permit laying of the cornerstone. Instead, the granite stone was unveiled at an outdoor ceremony near the construction site, on the south side of the Agriculture Building.

Officiating at the ceremony were C. F. Harrington, Chancellor, McGill University, Dr. R. E. Bell, Principal & Vice-Chancellor, McGill University, Dr. A. Clark Blackwood, Vice-Principal, Macdonald College, Murray D. McEwen, Chairman Macdonald Agriculture Campaign and C. Irving Slack, President, Macdonald Branch of the Graduates' Society of McGill University, and chairman of the event. Guests of Honour, invited to unveil the cornerstone, were Frank Sydney Grisdale, C.B.E., B.S.A.'11 and Mr. and Mrs. David M. Stewart. Following addresses by Dr. Bell and Dr. Blackwood, Mr. Harrington introduced the Guests of Honour and presented engraved silver trays to them.

FRANK S. GRISDALE, a member of the class of 1911, Macdonald's first graduating class in agriculture, travelled from his home in Olds, Alberta, to take part in the cornerstone ceremony. Two years after graduation, Mr.

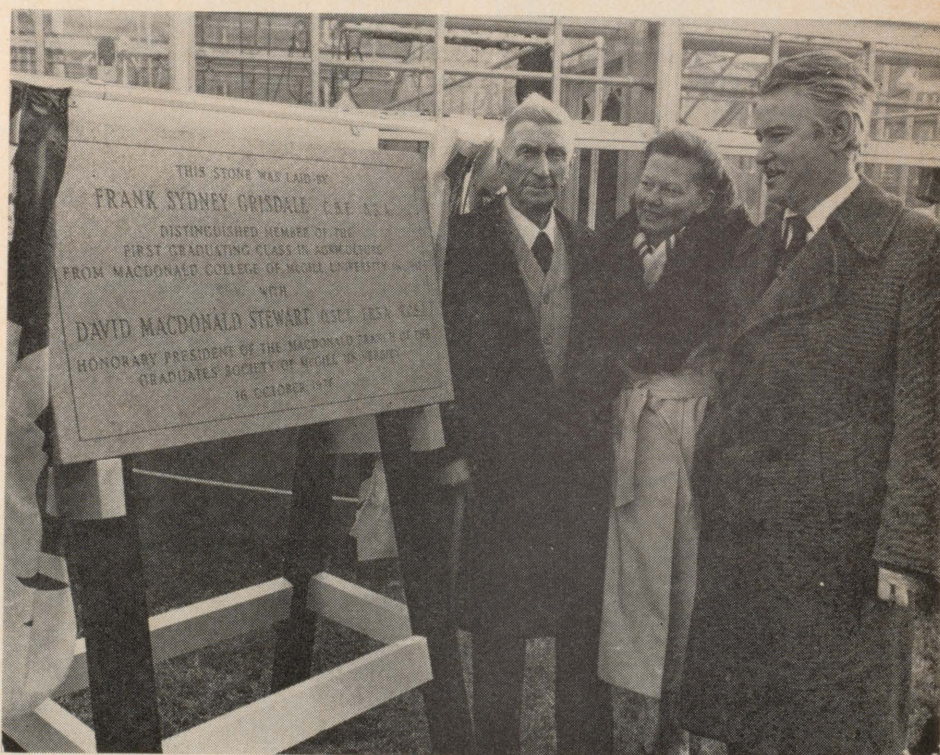
Grisdale was appointed agronomist at the new School of Agriculture at Olds, transferring in 1915 to the Vermillion School of Agriculture and returning, as principal, to the Olds School in 1919.

Frank Grisdale entered politics in 1930, becoming Minister of Agriculture for Alberta in 1934. During World War II, he was called to Ottawa where he served as Deputy and, later, Foods Coordinator for the Wartime Prices and Trade Board. For his contribution to the war effort, he was named a Commander of the British Empire. The Grisdales returned to Alberta

The name Stewart is a living legend on the Macdonald College campus, perpetuating the memory and the generosity of Macdonald College's founder, Sir William Macdonald, first through Mr. and Mrs. Walter M. Stewart and now through Mr. and Mrs. David Stewart.

David Stewart is Vice-Chairman, Macdonald Tobacco Inc. and President, Macdonald Stewart Foundation.

Foremost among his many interests is the preservation of historic sites and the formation and support of Historical Societies



Mr. Frank Sydney Grisdale, C.B.E., B.S.A. (left), with Liliane Stewart and David Macdonald Stewart, O. St. J., E.R.S.A., K.C.S.J., Honorary President of the Macdonald Branch of the Graduates' Society of McGill University, Guests of Honour at the Cornerstone Ceremony held at Macdonald College on October 16, 1976.

in 1951, settling in Red Deer. However, the call of the farm at Olds was so strong that they returned there in 1960.

The other Guests of Honour, David and Liliane Stewart, need little introduction to a Macdonald Journal audience.

and Museums. To mention a few, there is the Montreal Military and Maritime Museum on St. Helen's Island, the Lake St. Louis Historical Society, the restoration of several original buildings in Old Montreal, and a museum library of historical books on the History of Canada.

Macdonald Agriculture Campaign

A \$7.2 million campaign for the Macdonald Stewart Building

In 1970 the Faculty of Education was moved from Macdonald College to the McGill campus where it would have access to more sophisticated training and resources. The exodus of some two-thirds of the student body and related faculty and staff left the Faculty of Agriculture and School of Food Science with buildings and space beyond their requirements. It soon became imperative that McGill find a solution to the financial burden of maintaining the Ste. Anne de Bellevue site.

There were other problems. The 70-year old buildings had been designed partly for the instruction of teachers and the large remainder for household science and agriculture. They are now not as suitable for research and teaching of modern agricultural science. At the same time, the Faculty of Agriculture needs to have its academic buildings adjacent to its extensive experimental farm and other facilities.

In close collaboration with the Quebec Ministries of Education and Agriculture and others, a plan evolved whereby McGill University would lease part of the Macdonald College campus to John Abbott College, share the maintenance costs with them, and embark upon a program to consolidate and modernize facilities for the Faculty of Agriculture and its School of Food Science. This plan called for the construction of a new central building, major renovation of two existing academic buildings, new roads, parking area, and landscaping.

Why Macdonald College seeks your support

Funds for the construction of the Macdonald Stewart Building are being sought from private sources. The Macdonald Agriculture

Campaign has been organized for this purpose with an objective of \$7.2 million. The campaign committee is pleased to announce that a multi-million dollar donation has already been pledged by an anonymous benefactor.

McGill University's plans for Macdonald College have the full backing of the Quebec Government which is funding the very extensive renovations to the Agriculture and Barton Buildings. The Ministry of Education is also providing funds for new roads, landscaping in the immediate vicinity of the new building, modifications to other buildings and operating expenses once the installations have been completed.

The provision of modern facilities for teaching and research in Agriculture and Food Science is essential if Macdonald College is to make further significant contributions toward the greatest challenge of our time — the production of more and better food for more and more people.

Macdonald College needs and asks for your generous support of the Macdonald Agriculture Campaign.



Among the participants in the Macdonald Reunion '76 program were (left to right), Irving Slack, President of the Macdonald Branch, Murray McEwen, Chairman of the Macdonald Agriculture Campaign, Ron Ness, Regional Committee Chairman for the Macdonald Campaign, and Conrad Harrington, Chancellor of McGill University.

Executive Committee
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Chairman

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Honorary Treasurer

Dr. Jean David
Mrs. J. L. Davis
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Owen M. Ness
G. Roger Otley
C. Irving Slack
Vice-Chairmen

D. R. McRobie
Public Information
Chairman

Family Tribute to Macdonald College

First trees planted on new campus oval

In developing the eastern portion of the lower campus for the Faculty of Agriculture, a landscaping program was designed to enhance the academic building complex. One of the features of this plan is the development of a new "oval" immediately to the southeast of the central buildings.

A highlight of the Reunion '76 events on October 16th was a tree planting ceremony by Frank Grisdale, B.S.A. '11 and members of his family. As a tribute to Macdonald College, the Grisdales, shown on the "family tree" below, generously planted a grove

of 15 mature sugar maples on the perimeter of the new Macdonald College oval.

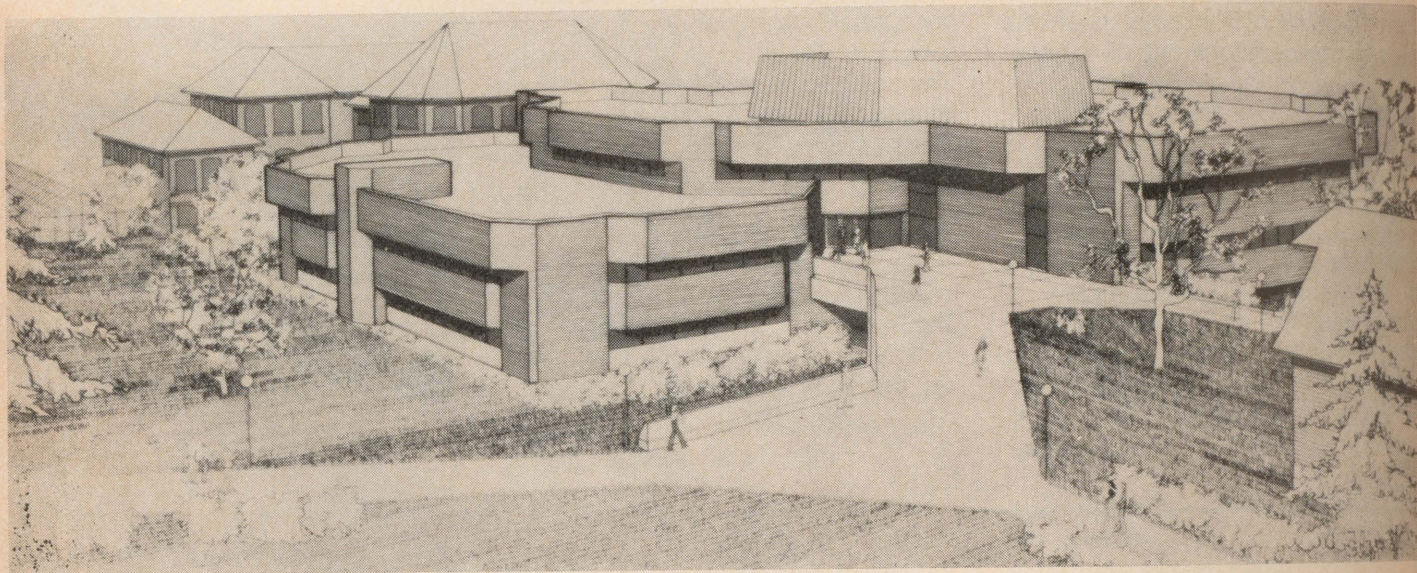
This symbolic event was directed by Donald W. Graham, B.Sc (Agr.) '52, head of D. W. Graham Associates, landscape architects, whose wife is the former Marguerite Grisdale, also a graduate of the Class of '52.

In the years to come, it is expected that graduating and reunion classes will follow in the footsteps of the Grisdale family by planting additional trees on the new Macdonald campus.

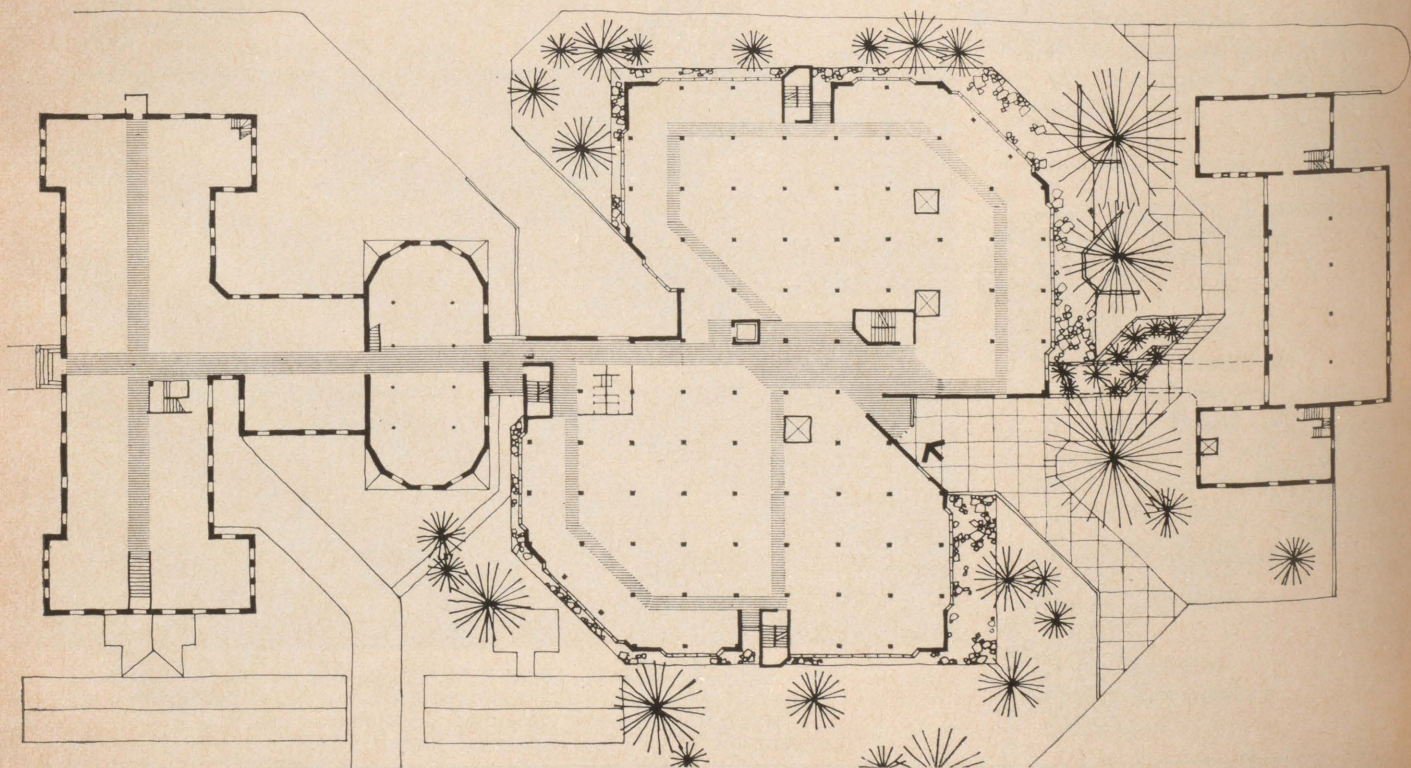


The Macdonald Stewart Building

A modern, central building for the Faculty of Agriculture and
School of Food Science



Architects: Merrett, Stahl, Elliott



Elevation

The accompanying drawing shows the 134,000 square feet Macdonald Stewart Building now under construction on the site formerly occupied by the Agricultural Engineering Building.

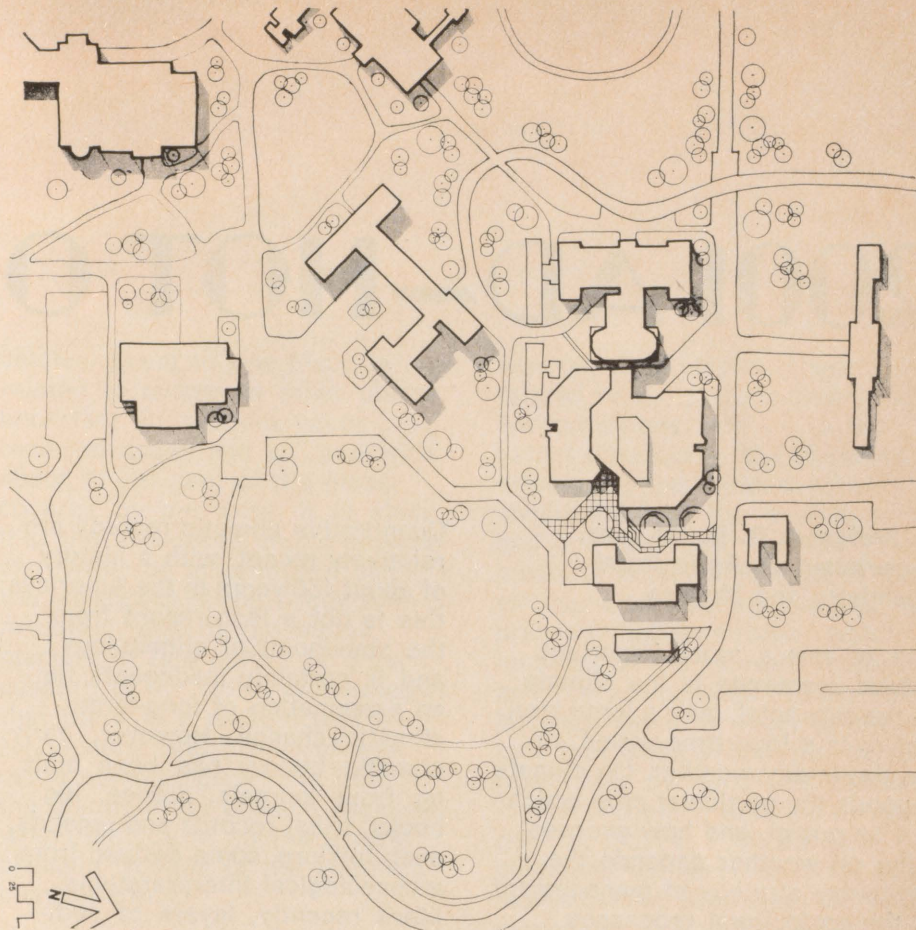
It will accommodate the research laboratories and offices for most departments, Faculty administration, the Extension Department, the Morgan Arboretum, and the Lyman Entomological Museum.

To the west it connects at three levels with the existing Agriculture Building which will undergo major renovation to accommodate the Department of Plant Sciences and all general classrooms. The Barton Building to the east will also be entirely renovated to accommodate the Faculty Library and the McLennan Travelling Libraries; it also will be directly connected to the new building.

Located as it is on the high point of the natural land contour on the campus proper, this complex of three buildings will form the visible centre and framework of what will constitute the "new" Macdonald campus.

Site Plan

The drawing above shows the site of the new Macdonald Stewart Building within the approximate boundaries of the eastern portion of the Macdonald campus to be developed for the Faculty of Agriculture.



A feature of the site is the restriction of vehicular traffic and parking to the perimeter of the newly created campus, thus allowing for and emphasizing freedom of pedestrian circulation between buildings within the entire area. Direct access is provided north to the Macdonald College Farm and Morgan Arboretum.

The sketch also shows a conceptual approach to landscaping the area, adapted from a submission prepared by D. W. Graham Associates, landscape architects.

Floor Plan (main level)

The floor plan demonstrates the relation of the masses of the new building to the existing buildings and highlights the split plan based on a spinal corridor system running east-west on all levels, with peripheral corridors looping off into relatively large departmental spaces. Office space is located around the perimeter.

The creation of a large enough open space between the new

structure and Barton Building ensures transitional landscape areas and preserves an already existing feature enhanced by mature trees worth retaining.

The area utilization on a floor by floor basis is as follows:

Level B: 11,000 square feet for teaching laboratories, animal rooms, faculty stores, mechanical and electrical installations.

Level 1: The main communication floor between all buildings, including the connection to the Barton Building. It accommodates research laboratories for the School of Food Science, Agricultural Engineering, Animal Sciences, Chemistry and Physics.

Level 2: The main entrance floor, housing Faculty administration, Department of Renewable Resources, Extension Department, Morgan Arboretum, Lyman Entomological Museum.

Level 3: The smallest floor, accommodating the Departments of Microbiology and Entomology.

2001 AD—HOT OR COLD?

by Professor R. H. Douglas,
Department of Agricultural
Chemistry and Physics

One of man's most important natural resources is his climate — the sum total, over a large area and over a long time-period, of the day-to-day weather. On climate depends the particular crop which can be grown, and how successfully; on weather depends the day-to-day strategy of management of the agricultural processes. Availability of water, for human and industrial consumption and for hydro-electric power, is affected by climate. So are energy demands for heating in cold weather and for air-conditioning in hot. Transportation is easier, and less expensive, in a favourable climate; and it is not only a matter of snow blocking highways, or ice the waterways, but also of additional vehicle fuel requirements in cold weather. Certainly one of the most important climate-dependent activities is primary food production — a critical matter today when soaring populations and low stockpiles are causes for global concern. The media have made us abundantly aware of the warnings of an impending ice-age, of the spread of desert areas, of interruptions to the monsoons, of the threat to our climate of man's input of carbon dioxide into the atmosphere, of the hazards of depletion of ozone by supersonic transports and by freons from spray-bottles. Is the climate changing? If so, is it due to any or all of these things? If so, what are the implications for mankind, and what can and should be done about it? How **reliable** is our climate, and how **fragile**?

Quantitative climatic records are relatively recent, with a history of about 150 years in the Americas; this is not a long record from the standpoint of climatology, and is certainly inadequate for an examination of long-term climatic change. However, early climatic history has been built up from journals, diaries, log books, tribal records and legends, even folklore, some derived from archaeological interpretations. More recently, layers of sediments, laid down strata upon strata on sea beds and lake beds, and in bogs, have been examined, the various preserved remnants of plant and marine life have been identified, and the successive climatic epochs reconstructed. The advances and retreats of glaciers and of vast ice-sheets have been interpreted; ice cores, drilled from the "permanent" ice fields of the Arctic and Antarctic, reveal annual layers whose ice can be analysed and interpreted climatically. Records of water levels in oceans, inland seas, and lake systems are informative; and changes in water temperatures and currents can be inferred from fisheries records. Tree-ring analysis has been developed to a rather precise and informative degree, revealing not only ancient thermal and rainfall regimes but also providing clues as to water-table levels and even atmospheric pressure patterns.

All of these exploratory techniques, embracing a multitude of exciting approaches and of scientific disciplines, are together enabling man to reconstruct the jig-saw puzzle of his global long-term climatic history — and

such a history must be the starting-point for speculation on the future.

Past history (going back about 100 million years) shows a variable climate, with a series of ice-ages alternating with interglacial epochs. The changes are slow, in the sense that they span very long periods of time. In this perspective, we are at present in an "interglacial" period, and history would suggest a future glaciation — on the long-term scale. On a more familiar (and urgent) time-scale, there was a northern hemisphere warming trend during the first half of this century, but since about 1940 the trend has reversed, though it has perhaps levelled off in the last few years.

If we are indeed heading into another glaciation, it will undoubtedly be a long and slow process, if past history is any indication. But we don't know that we are; on the other hand, we don't know that we aren't!

Today the most immediate cause of concern is the **shorter-term climatic variability**, that is to say the variations which occur on a relatively short time-scale, say from one decade to another, or even from one year to the next. On this shorter and more familiar time-scale, the variations or oscillations are much greater, and of much more current concern, than any slower long-term trend. In any case, a long-term trend includes annual ups-and-downs, and it is these which have become an immediate cause for anxiety. It is now believed that much of the present century has been

a prolonged period of relative climatic stability favourable for agricultural production, but that the picture has changed; our climate is becoming more variable and less dependable. There also appears to be more variability from place to place, as well as from time to time. The climatic records on which our description of climate is based, and which form today's basis of planning climate-sensitive activities, seem to have been drawn from a deceptively stable period in our climatic history; and so it seems we must revise our thinking in terms of a somewhat less dependable climate in which **variability** is the rule rather than the exception. With global food reserves critically low, a production failure in several places at once, or several failures in succession, could be extremely serious.

What do we know about the climatic machine? Its primary power supply is solar radiant energy of which only a part — albeit a substantial part — reaches the earth directly; but some is reflected back into space from cloud-tops, from glacial sheets, and from certain land-forms of high reflectivity such as deserts. The remainder, absorbed first by the earth, takes part ultimately in the complex terrestrial-atmospheric energy exchanges and transfers that make our weather and climate. Within the earth-atmosphere system itself we find many such transfer mechanisms, involving evaporation, precipitation, transfer of heat in bulk by ocean currents and by the atmospheric circulation systems (driven by the high- and low-pressure areas of the weather map, which are really vast eddies in the over-all global circulation), each process inter-acting with and affecting the others. The atmosphere being a fluid, a meteor-

ological event in one place is related to events in other places. Important interactions occur between ocean and air, and with about 71 per cent of the globe covered by our seas, it is clear that the influences of the oceans can hardly be ignored; nor can the ice-sheets of the Arctic and Antarctic, and of the alpine glaciers. It is a matter of great concern to the global climatologist that there is a notable lack — for obvious reasons — of adequate climatological data from the all-important oceanic regions, which include of course a very sizeable fraction of the southern hemisphere.

Climatic behaviour cannot be understood, let alone predicted, unless and until we understand the complexities of the global machine, and how a change in one factor can affect the others. There may be changes in the primary external source of solar energy due to changes in solar activity, in the earth's orbit or in its inclination. There may be changes in the **internal** atmospheric machinery, due (for example) to an increase in carbon dioxide; or to a change in the reflectivity of a region because of defoliation; or to an oceanic upwelling which alters the sea-surface temperatures; or to an increase in atmospheric dust-content due to volcanic upheaval; or to a major vegetative change which alters the evaporative regime of an extensive forest area.

How do we study the global climatic machine and examine its response to such potential disruptions? We certainly can't experiment globally *in situ* and *in vivo*! Rather, one studies what one can in the laboratory (e.g. the interactions of the freons with ozone); one makes local

environmental measurements related to the **current** presence, concentrations, and — to the extent possible — the observed effects, of the various active constituents of the environment; and one develops "models". A model is simply a **concept** of the atmospheric machine, usually expressed mathematically, which includes all the relevant factors and the interactions among and between them, at least to the extent that these are known or can reasonably be surmised. Meteorological modelling is by no means new; in 1922, L. F. Richardson published the techniques for the mathematical prediction of atmospheric motion (numerical weather prediction), but the application only became feasible with the advent of the modern computer system. Today's short-range (a few days) weather forecast is the result of computer-calculations based upon an appropriate atmospheric fluid model. As computer capacity grows, so too can grow the complexity of the model with which it deals, so that more and more can one introduce provision for the intricate interrelations and feedbacks that seem to be active in the earth-ocean-atmosphere system. Given a reasonable model (which depends on human wit, knowledge, and ingenuity), then one can experiment by (for example) doubling the carbon dioxide content and determining (within the limits of the model's capabilities) the chain of subsequent responses. In principle at least, one can examine the end-effects of changes in various such inputs, and hope to identify those which are of real importance. This has been an extremely active and fruitful area of activity since World War II, and there exists an abundant stockpile of professional expertise in this particular methodology.

But in the end it is the impact of the climate, and of its variability, on a specific activity that counts; it is the ultimate response of our crops, our livestock, our water reservoirs, and indeed our very selves, which concerns us. What will be the impact on our urban energy demands, our rural economy, the yield and quality of our wheat? What of the effects on plant pests and plant diseases, and the ultimate consequences to crop production? It seems reasonable to suppose that any particular climatic disturbance is bound to affect directly at least one link in every ecological chain, and eventually, indirectly, every other link. So surely we must discover and understand the effects, on biological **systems**, of the various conceivable climatic upsets. A considerable amount of useful work has already been done in this direction — though not necessarily for this specific purpose. For example, models exist for the prediction of crop yields, based on such meteorological quantities as temperature, rainfall, photosynthetically-active radiation, and soil moisture; some of these have already been applied to evaluate the potential effects of artificially-induced rainfall, and are now being applied to assess the implications, to yield, of a cooler or warmer, dryer or wetter climate.

In recent years a number of concerned agencies have convened conferences, seminars, and workshops to consider the problem of climatic change and variability — to integrate the sum total of current knowledge, to inquire into the predictability of climate, to consider global strategies and planning in the face of uncertainty. The writer was privileged to participate in one such workshop a year ago, sponsored by the Science Council of Canada

and six other Canadian, American, and Mexican associations. The sessions comprised the first part of a two-phase project, and had a mandate to review present knowledge and the prospects of prediction, and to prepare scenarios to serve as the foundation for the second phase, this foundation consisting of the conference report "Living With Climatic Change". Phase two (not yet completed) will consist of the communication and discussion of the report (including the scenarios) with those in policy and planning authority, for whose benefit the exercise was undertaken. To quote from the Foreword: "Those of us concerned with Science Policy became aware of the almost total absence of communication between the meteorologists with the knowledge of climatic change and the economic and social decision makers and planners. These latter groups seemed to be going about their business blissfully using meteorological statistics drawn from the past 25 years when the weather on the whole had been rather benign and quiescent. Certainly this is the case in North America where much agricultural, northern development, energy, transportation, construction, communications and urban planning are based on what must be considered as meteorological assumptions of very doubtful validity for the future. For example, many agricultural practices in the mid-west seem to be ignoring all the lessons learned in the 1930s at such high costs." Hard words indeed, these.

The conference very quickly homed in on variability as the key item. Scenarios were drawn from well-documented (recent) past history, on the basis that what has happened before may well happen again, and observed past crises provide more credible

scenarios than do speculations on the future.

At about the same time, The Institute of Ecology (TIE) undertook a study on "Food Producing Ecosystems in Changed Climates", funded by the Charles F. Kettering Foundation (Dayton, Ohio). It is interesting to note that this project, too, identified variability as the pressing problem, and it too developed scenarios based on recent and variable climatic history. Here it is appropriate to inject two pertinent quotations. The first, from the TIE report ("Impact of Climatic Fluctuation on Major North American Food Crops"):

"It (the TIE report) presents and explains scenarios based upon the assumptions **that a recurrence of past climatic fluctuations or weather sequences is possible** and that a recurrence would have significant effects on the production of food."

And the second, from the final paragraph of "Living With Climatic Change":

"This brief review... might be considered a warning from history that the climates of North America must not be considered completely 'stable'. There is no danger of an ice age suddenly coming next year or next decade, but minor and major climatic anomalies have occurred and most certainly will occur again. **History, both natural and written, has provided us with a warning.**"

To conclude, don't expect an ice age in the near future (the recent summer and autumn notwithstanding). But let us warn of, and prepare ourselves for, a somewhat less dependable climatic resource than we have been accustomed to.

Guinea Fowl for Canada!

by Jan Cadieux
B.Sc. (Agr.) '76

European Success

Guinea fowl is now the second most important poultry meat in France, and it is fast gaining popularity in other European countries. This bird has long been prized by a select few in North America for its slightly gamey flavour, but most of us have probably never seen it on a menu. However, we may have this opportunity if Canadian producers were to follow Dr. S. B. Touchburn's lead. Dr. Touchburn, now Chairman of the Animal Science Department at Macdonald College, spent a year in France at a poultry research station and wrote in the **Ohio Report** an article entitled "What Ever Happened to Guineas?" (Touchburn, 1972). In this article he states, "There is room for greater diversity in luxury foods," and "an enterprising producer could create a lucrative business raising guinea fowl, if he established the market as his production developed."

In the United States, there are a few guinea fowl producers who are supplying a specialty market consisting mainly of luxury restaurants in large cities. Here, the dressed young guineas bring a good price, depending on the season.

In France and Italy, raising guinea fowl is very profitable on a larger scale. Even with a market price that is double the price of chicken, guinea fowl has captured 14 per cent of the total fowl consumption in France.

Why So Popular?

There are two reasons for the guinea's rapidly increasing popularity in Europe. Firstly, the market was established by daily tele-

vision advertising as production developed. Secondly, research regarding cage rearing and artificial insemination gave expansion a tremendous boost.

Guinea fowl respond well to these modern poultry management methods. They weigh approximately 2½ pounds (1100 g) at 10 weeks, to just under 3 pounds (1300 g) at 12 weeks. Their dressing yield of 80% surpasses our broiler chickens, and this is attributed to their wide deep breasts and smaller bones.

Modern Management

Breeding: The grey pearled variety is used almost exclusively today in commercial operations. Under optimum conditions in cages, the hen will lay nine months a year, producing 150 eggs with a fertility of 90 per cent and hatchability of 80 per cent. Breeders are brought into egg production at 28 weeks of age, and artificial insemination is used exclusively in France.

Incubation: Guinea fowl eggs are smaller than chicken eggs, and they have extremely hard shells. The guinea eggs are incubated at 99°F for 17 days, then 97°F for 7 days, with high humidity.

Brooding: Guinea keets are brooded and fed similarly to the way turkeys are. They are brooded with a floor spacing of .7 sq. ft./bird (15 chicks/sq. m.) and with the heat source at 96°-104°F (36°-40°C). The temperature is decreased 5°F (2°C) per week, until the fifth week. Then the room temperature is set at 70°F (22°C) and must not fluctuate below 65°F (18°C) because mortality may be increased. Keets being grown for market in France receive continuous light of moderate intensity, which may be reduced after three weeks of age.

Feed: Guinea keets should be fed crumbles, rather than mash which tends to clog in their throat. Their feed conversion to 14 weeks is between 3.3 and 3.8 pounds per pound live weight. The French feeding program recommends a 23.5 per cent protein, medicated ration for the first 14 days, followed by 22 per cent protein until 36 days old, and then 21 per cent protein ration until 77 days, and finally 18 per cent protein until 84 days (Calet, 1972). The energy levels of these feeds are shown in Table 1.

Health: The French research stations have not had trouble with diseases interfering with production, although it is really too soon to say. Keets often have worms if not grown in cages. Coccidiosis occurs, but the feeds contain coccidiostat, and so it has not been a problem. There have also been the occasional mild outbreaks of infectious synovitis, but the greatest hazard appears to be the fungus diseases.

Problems

Of more concern than diseases are the guinea fowls' tendency to wildness and flightiness under any stressful conditions—such as changes in feed, light, or temperature. American producers have reported severe losses because of electrical storms. Some have even lost birds when a light bulb "popped" as it burnt out. Also, there can be a dust problem created by their very dry droppings. However, with emphasis on dehydrated poultry wastes, this may be an advantage.

Another guinea fowl trait, which is sometimes upsetting, is their warning signal of approaching strangers—a loud raucous cry! When this cry is passed along through a poultry barn full of the birds, the noise is deafening.

Hobby Raising

However, for the hobbyist who does not have a watch dog, a couple of guinea fowl make a good substitute. Traditionally, guineas were used to protect poultry flocks from intruders, as well as to destroy insects in the garden. They are good range birds; apparently they do not scratch, and so they are not as destructive as chickens. Also of interest is the fact that the beautiful feathers can be used for making fishing flies. The United States Department of Agriculture has a leaflet, which is suitable for a hobbyist, entitled "Raising Guinea Fowl."

Chicken hens are recommended for raising the keets on range, as the guinea hens are poor mothers. They have a tendency to take the keets through wet grass, wander too far, and stay out overnight.

The keets will stay with a hen until almost fully grown. This tends to control their wild instincts and simplifies management. If their foster mother is trained to roost in a poultry house at night, the guineas will follow, and this will make it easier to catch them at market time.

Both keets and hens will be encouraged to return to the poultry house for the night by feeding them there in the late afternoon. Keets can be fed a turkey starter ration closest to those recommended by the Ploufragan Station of France (in Table 1).

The guinea keets should spend the first two-three days in a coop and should be locked up at night to avoid predation. They should not be let out in the morning until the grass is dry. With a recommended "grass and low bush range" of one acre per 150 birds, a few birds will not take

up much room. However, the coops should be moved weekly if they have grass floors.

Producers

The following guinea fowl producers will supply keets. To give a rough idea of the cost, the 1974 prices were approximately \$14 per 25 chicks.

Ned R. Sitler Jr.
R.D. 1
Wrightsville, Pennsylvania 17368

Harold Schroders
Mekinock, North Dakota 58258

Frederick Wright
Willow Hill Farm Hatchery

R.D. 1
Richland, Pennsylvania 17087

Ridgeway Hatcheries
La Rue, Ohio 43332
(keets in October)

Hoffman Hatchery
Gratz, Pennsylvania 17030

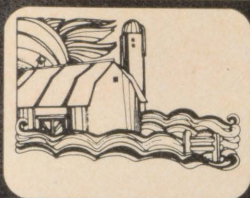
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TABLE 1. NUTRIENT COMPOSITION OF GUINEA FOWL RATIIONS IN FRANCE

Ploufragan Test Station C. Calet August 22, 1972					
MARKET BROILERS					
	1-14 Days	15-36 Days	37-77 Days	77-84 Days	BREEDERS
Metabolizable Energy, Kcal/lb.....	1382	1409	1455	—	1318
Kcal/kg.....	3040	3100	3200	—	2900
Protein, %.....	23.5	22.0	20.7	17.7	17.5
Methionine, %.....	0.59	0.55	0.47	0.43	—
Meth. + Cystine, %.....	0.94	0.88	0.87	0.70	—
Lysine, %.....	1.30	1.20	1.12	0.90	—
Calcium, %.....	0.86	0.81	0.77	0.77	—
Phosphorus, %.....	0.74	0.69	0.65	0.65	—
Minor Ingredients.....	✓	✓	✓	✓	✓
Minor Ingredients:	Amount per Kg.		Amount per Lb.		
Vitamin A, I.U.....	10,000		4,545		
Vitamin D3, I.U.....	2,500		1,136		
Vitamin E, mg.....	10		4.5		
Vitamin K3, mg.....	4		1.8		
Thiamine, mg.....	1		0.45		
Riboflavin, mg.....	4.5		2.0		
Calcium Pantothenate, mg.....	10		4.5		
Pyridoxine, mg.....	3		1.4		
Folacin, mg.....	0.5		0.023		
Choline, mg.....	1,100		500		
Vitamin B12, mcg.....	30		13.6		
Salt, mg.....	3		1.4		
Magnesium, mg.....	500		227		
Manganese, mg.....	70		31.8		
Zinc.....	55		25		
Iron, mg.....	25		11.4		
Copper, mg.....	3		1.4		
Cobalt, mg.....	0.6		0.03		
Iodine, mg.....	1.5		0.68		
Santoquin (antioxidant), mg.....	60		27.3		
Bacitracin, mg.....	8		3.64		
Penicillin, mg.....	4		1.8		
Erythromycin, mg.....	5		2.3		
Coyden (coccidiostat), mg.....	125		56.8		

The Family Farm



Published in the interests of the farmers of the province by the Quebec Department of Agriculture.



Experiment in Multiple Suckling of Calves

For the past three years, Laurent Charette, professor in the Animal Science Department of Laval University, and Jacques Lebeau, economist with Agriculture-Canada, have been working to develop a method of multiple suckling of calves. This research, which is being conducted at the Laval University Farm at St. Augustin, appears so far to prove the profitability of using F_1 cows for suckling calves.

Two Methods of Multiple Suckling

Through this research, subsidized by the Quebec Research and Agricultural Services Council, two methods have been devised to get cows to adopt more readily calves which are not their own.

The first and simpler method consists in tying the cow to the wall of the barn and bringing her own calf and foster calf to her, once in the morning and again in the evening for four or five days. This method, however, requires considerable time before it is effective. Moreover, there is always the possibility that the cow will reject the adopted calf.

The second method requires an 8 foot by 5 foot pen where the cow is tied during suckling. The calves are brought in from their own pen and presented to the cow twice daily for five days.¹

1. This method can be improved by putting the calves in an adjoining pen communicating with that of the cow by a sliding door.

Experience has shown that the second method is more successful, because a cow which is enclosed in a smaller space will accept calves better. Up till now, in the case of about 100 calves raised in this manner, only three per cent of the cows which fed them showed any reluctance and no failures were recorded.

Two Different Markets for Multiple-Suckled Calves

The farmer can choose to convert his multiple-suckled calves into either "feeder calves" or "vealers" each of these requiring special rearing methods.

1. "Feeder Calves"

Over a period of 201 days, a cow can feed an average of two feeder calves whose total weight may reach 1,000 pounds and which will be sold to a feedlot or auction. Her own calf and the adopted calf are nourished on the feed given to the dam. If the animals are sent to pasture, they should be closely watched to see if the cows accept their foster calves; if not, the adoption procedure must be repeated.

2. "Vealers"

Once the feeder calves are weaned, the farmer can use the same cow to produce, in 59 days, a vealer weighing 200 pounds. In this case, too, the cow is tied up for suckling during the first week and the calf is presented twice a day. It is very important to make sure that the calf does not get anything except the cow's milk and milk powder and water.

The calf will then be sold to the abattoir as a "vealer".

Advantages of Multiple Suckling

1. To the Beef Sector

F_1 cows used for multiple suckling should have enough milk to feed three calves, that is to say at least 5,000 pounds of milk a year.

Matings of dairy cows with bulls of what are known as exotic breeds have in fact been carried out with a view to increasing the milking capacity of the F_1 cows (the first filial generation) and improving the meat quality of the F_2 calves (second generation). According to Mr. Lebeau and Mr. Charette, increasing the production of the cows (i.e. from 400 pounds of calf a year to 1,200 pounds) is one of the best possible ways of making the cow-calf beef system pay. After that, the farmer's main problem is to obtain enough newly born foster calves (dairy, F_1 crossbreeds, and F_2).

2. To the Dairy Sector

Multiple suckling can also be advantageous as a short-term solution to a dairy farm's milk surpluses. Thus, the calves from the milking herd can easily be turned into vealers — for which the demand is now comparatively good. In this case, the dairy cows used for the purpose will be the poorer milkers (those giving less than 7,500 pounds of milk a year).

Assuming that it takes about 1,000 pounds of milk to produce a

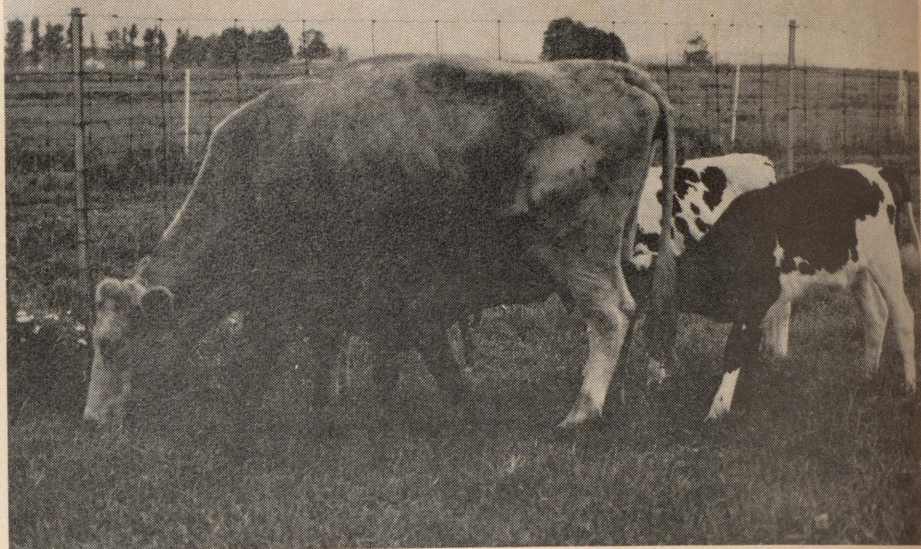
200-pound vealer, a cow giving 7,000 pounds a year will be able to suckle two calves at a time and produce an average of 400 pounds of calf in 12 weeks. Furthermore, since dairy cows have a much stronger maternal instinct than F_2 cows, the adoption period will be limited to the first four or five sucklings. Multiple suckling has a further advantage over the traditional method of pail-feeding calves in being labour-saving. All that is necessary is to put the vealer calves and the nurse cows together twice a day at milking time.

However, the two researchers say they are convinced that multiple suckling is only efficient and (at present) profitable if the producer owns calves and is able to estimate his monthly milk surplus.

Multiple Suckling at the Salon of Agriculture

Anyone who wanted to know more about this new suckling method was able to see an exhibit on it at the Salon of Agriculture which was held at Place Bonaventure in Montreal, November 2-7. Briefly, this experiment involves three systems: a dairy cow suckling three calves; an F_1 cow suckling two calves; and two F_1 cows suckling a total of four calves.

A new feature at the 1976 Salon of Agriculture was that, in connection with the multiple suckling exhibit, visitors were able to watch calves being led in their stalls at certain times (10:30 a.m. and 8 p.m. daily). In addition, at 3:30 p.m. daily there was a demonstration of multiple suckling in the central area of the Salon. Mr. Jacques Lebeau of Agriculture-Canada, one of the inventors of this new method, commented at these demonstrations and was



in attendance at the multiple suckling booth to answer questions.

At the multiple suckling booth there was also a continuous audio-visual presentation on the adoption technique, and a film lasting six minutes entitled "The

Cow With Twelve Teats" was shown every hour from 11 a.m. to 9 p.m. An explanatory folder on this adoption technique (whose primary aim is optimum use of our calf resources) was distributed to everyone interested.

1976 Plowing Matches

The Provincial Plowing Match held on the grounds of Macdonald College at Ste. Anne de Bellevue was an unqualified success. It was a lively setting reminiscent of summer agricultural fairs that some 15,000 visitors attended the plowing trials and the farm machinery demonstrations. They also took time to visit farm machinery displays and Macdonald College.

While the participants contended for prize standings in the five classes of the provincial and national championships, visitors were invited to take in the machinery demonstrations which were presented at regular intervals on the grounds of Macdonald College. At the same time, a special ladies' program took place daily in a huge tent set aside for this purpose. In addition, guided tours of the College were organized throughout the three days of the plowing matches in order to familiarize the public with

the work carried out at this institution. Some 150 students donated their time and efforts to ensure the success of this event of national importance.

1. The Provincial Plowing Matches

Some 65 plowmen from all corners of the province and country participated in one or often two trials of the Provincial Plowing Matches. Among them, Nicole Bouchard, a young girl from St. Augustin (Deux-Montagnes) and daughter of Mr. Roland Bouchard (a well-known participant in this type of competition), placed first in the "Junior Provincial" class.

Winners of the various provincial matches were presented their trophies and prizes on Friday, September 24, at a special ceremony in the ballroom of the Centennial Centre at Macdonald College.

The following are details on the first three placement standings

in each of the classes of the provincial match.

Jean-Charles Marcil of Carignan is the new **Quebec Plowing Champion** with 157 points. He is followed by Roméo Besner of St. Clet (Vaudreuil-Soulanges) and Guy St. Jacques from Oka who obtained 153.5 and 151.13 points respectively. The "Junior Provincial" champion is Nicole Bouchard of St. Augustin (Deux-Montagnes), with 172 points. She is followed by Benny Hammond of Lachute who obtained 126.5 points and by Luc Morissette of St. Hyacinthe with 125 points.

The other winners of the 1976 Provincial Plowing Match include Guy St. Jacques in the Novice Visitor's Class; Ken Brown in the Advanced Visitor's Class; Eric Norris in the Utility Class; and Denis Morin in the Intercollegiate Class.

2. The National Plowing Match

This year, Macdonald College hosted the National Plowing Match which attracted some of the best plowmen in the country who placed as follows: 1. Ken Brown, Ontario; 2. Yvan De Geer, Ontario; 3. Herb Winget, Quebec; 4. Roland Bouchard, Quebec; 5. C. Ewin Mills, Prince Edward Island; 6. Bev Folkins, New Brunswick; 7. Osborne Phillips, Prince Edward Island; 8. Charles H. Hayton, British Columbia; 9. Bill Higginson, British Columbia; 10. Stan Sather, Alberta; 11. Wally Mar, Alberta; 12. Gary Gray, New Brunswick.

The presentation of prizes for the National Plowing Match took place on Saturday, September 25, at the Stewart Main Dining Room at Macdonald College with Dr. E. J. LeRoux, director of research with Agriculture-Canada presiding. Several other guests attended this event, including among them Mr.

Guy Jacob, director of the Farm Buildings and Machinery Service of the Quebec Department of Agriculture; Dr. A. C. Blackwood, dean of Macdonald College; Robert Lanthier of the Esso Imperial Company, Mr. Roland Fréchette of Molson's Brewery, and several representatives of farm machinery companies.

The Ladies' Program

While the various plowing matches were taking place, a special program was offered to the ladies by the home economists of the Quebec Department of Agriculture working in L'Assomption and Richelieu and in the regions southwest of Montreal and northwestern Quebec.

Throughout this period, daily conferences and sampling demonstration were given in keeping with the general theme of "Let's Use Quebec Products". Those in attendance were able to hear a talk on the buying, handling, and different uses of eggs given by Miss Bertha Cadorette of FEDCO, and another on Quebec apples by Mrs. Suzanne Paré-Leclerc with the Marketing Division of the Quebec Department of Agriculture.

4. 1977 Plowing Matches

Encouraged by the success of the 1976 plowing matches, the organizers of this event announced that the 1977 championships will be held next September on the grounds of the Ste. Anne de la Pocatière Research Station. It is an event not to be missed by Quebec farmers and all interested persons.

The Quebec Swine Breeding Centre: Past and Future

by Ronald Drapeau, Agronomist
Livestock Production Division

The use of insemination by breeders of dairy cattle has contributed greatly to improving the performance of the different dairy breeds. As regards swine raising, this breeding technique is expected to reach the same degree of development in the coming years, even though, at present, the insemination of swine is in the first stages.

In Quebec, it was not until 1966 that interest was shown in the application of swine insemination. Different research projects were started at the La Pocatière Institute of Agricultural Technology in order to study more closely various aspects of the insemination of swine such as the collection of semen, its qualitative and quantitative study, insemination technique, and the possibilities of setting up a distribution centre. The various experiments resulted in the formation of the Quebec Swine Breeding Centre. Since 1973 the centre has been administered by the Livestock Productions Division of the Quebec Department of Agriculture. At present, more than 110 breeders are benefiting by the services it offers.

How can the insemination of swine help hog producers? The answer to this question is manifold.

By far, the most important result is the genetic improvement of swine herds through the use of boars of a superior genetic potential and the propagation of this potential since from 10 to 12 sows may be inseminated by this technique. Swine breeders should keep in mind that half

of the hereditary traits are passed on by the boar, hence the importance of using a sire of a recognized genetic quality.

Even though it is difficult to imagine a breeding animal capable of siring offspring who can reach market weight in 130 days with a slaughter index of 108 and a feed intake of 440 pounds, five per cent of the boars from trial stations are liable to give such results. Of course, there are other factors which may influence the performance of the offspring, namely management, feeding, environment and the influence of the mother, which counts for 50 per cent.

To better explain these figures in terms of profitability, a comparison may be made of a boar of low genetic potential with one who is genetically superior, without taking the mother's potential into consideration.

	Age	Feed	Fat (index)
Superior boar:.....	130 days	440 pounds	108
Inferior boar:.....	200 days	700 pounds	102

(See Table I)

Since 100 per cent heritability (the role which heredity plays in the transfer of traits) is impossible owing to the influence of the environment, the following formula may be used to determine the desired performance of the offspring. The three important economic factors which will be considered include feed, age, and index at slaughter. (See Table II)

Moreover, the fact that hogs will reach market weight in 13 days less is an important factor in determining profits for the producer.

The insemination of swine thus assures profitability in this field as the centre tries to offer animals which are equally superior

from the point of view of genetics and conformation. There are other advantages to be derived from the insemination of swine, namely the introduction of new breeding stocks at moderate prices, better disease control, the reduction by 20 to 30 per cent of the buying cost and upkeep of boars, etc. There are naturally a few problems entailed in the use of A.I., but they can be solved. First of all, there is the relatively short conservation period for the semen. Frozen semen is still not used at the centre, therefore, it must be utilized within 50 to 65 hours of its collection. The centre, however, is expected to be relocated within a year in order to improve installations and the system of semen distribution. This new set-up will make possible the use of frozen semen and thereby result in its unlimited conservation. It is expected that, within 12 to 15 months, part of

our work will be carried out with frozen semen.

Another difficulty arising from the insemination of swine is the effective detection of estrus

(heat). It is at this very important stage that the raiser must use insight and good judgement since it is at this time that the success or failure of mating is determined. How should the raiser proceed for successful insemination of swine? Any raiser wishing to follow a program of insemination should first of all attend a study session on A.I. for swine. On the average, these sessions last a day and are organized by the centre to cover all the theoretical and practical aspects of insemination. Usually, a raiser who attends such a session is well qualified to make artificial matings in his herd. As follow-up, the personnel at the centre is always available to help him in case of difficulty.

For optimum results, the breeder should follow certain rules. He should first of all, when trying to detect the animals in heat, watch his herd of sows very closely and even use a boar to detect heat. He must then work with the females who are very noticeably in heat since insemination of 100 per cent of the sows is not recommended. In a herd there will always be females whose heat cannot be easily detected. These the male can mate at the right moment in a

TABLE I. Coefficient of Heritability of Principal Traits in Swine

Traits	Coefficient of heritability (%)
Weight at birth.....	5
Weaning weight.....	10
Size of litter (birth).....	10 Low
Size of litter (weaning).....	10
Daily gain.....	30-35
Feed conversion.....	30-40
Conformation.....	30 Medium
Yield of carcass.....	35
Number of nipples.....	35
Lean carcass meat.....	40
Surface of loin muscle.....	50 High
Thickness of back muscle.....	50

Ref. Swine recommendation, 1971, C.P.A.Q.

TABLE II.

Superiority of male	Superiority of female	Coefficient of heritability	Desired average of offspring
Feed			
$= \frac{(700 - 440) + (700 - 700) \times 0.36}{2} =$			+ 47 lb
Age			
$= \frac{(200 - 130) + (200 - 200) \times 0.36}{2} =$			+ 13 days
Fat			
$= \frac{(108 - 102) + (102 - 102) \times 0.50}{2} =$			+ 1.5 index
NORMS: Price of meal = .08/lb. Price of hog = .60/lb.			
Meal: 47 lb/hog at .08/lb.....			+ \$3.76
Sale of Hogs at an Index of 103.5			
160 lb. of carcass at 62.20 cents.....			99.36
Sale of Hogs at an Index of 102			
160 lb. of carcass at 61.20 cents.....			97.92
			\$1.44
TOTAL =			\$5.20

natural way. There exists a test of primary importance which can be administered at time of heat. It is the Back-Pressure Test which consists in immobilizing the animal by applying pressure on the back and sides. However, not all females show this reflex (only 50 per cent of the nulliparous and 70 per cent of the multiparous subjects). This reaction of immobility induced by man corresponds to the period of maximum sexual receptivity and it is at this time that there are the best chances of positive results.

By observing the various steps, the swine breeder can hope to obtain a success rate equalling that of natural matings (75 to 80 per cent).

In the very near future it is expected that the insemination of swine will become more and more important, judging from the fact that hog producers wishing to improve their stock efficiently and economically support such a

program and have already begun to subscribe to it. Since the insemination of swine is relatively new, it should be used with caution in order to obtain the best possible results. The Quebec Swine Breeding Centre was set up for the sole purpose of helping breeders increase their stock's yield.

N.B. For further information, contact the Swine Breeding Centre at La Pocatière. Telephone: (418) 856-1110.

Christmas Greetings to All Fellow Members

Another year is rapidly drawing to a close, and we do have much to be thankful for. Let us, as Christmas approaches, remember that it is the little things in life that really mean the most to us. The objectives of our movement are widespread, and our powers for good are tremendous. In all our activities we can do much

to help bring peace and happiness to our homes and country.

It is my sincere wish that each and every one of you have a Blessed, Peaceful, and Joyous Christmas and a very happy and prosperous 1977. God bless you all.

Edna L. Smith,
QWI Provincial President

A Sincere Thank You

Edna Smith, President of QWI, has asked us to express on her behalf her most heartfelt thanks for the many lovely cards she has received from individual members and branches during her sojourn in hospital. They have been of great comfort to her. She is also extremely grateful to the members of the Executive for their assistance and co-operation, particularly in shouldering the responsibility of the Semi Annual Board Meeting, which she regretted being unable to attend.

Miss Smith extends a warm welcome to new members and assures them that they will receive a personal greeting from her as soon as she is able to resume her normal duties.

Megantic County School Fair

Early in the year, a committee of three W.I. members was chosen to draw up the Prize List and distribute it to the school children. This prize list had three sections: School Section, Garden, and Projects.

One or two members on this committee are in some way directly connected with the school work and know the curriculum which the pupils are required to follow. With these facts in mind, the members draw up the school section of the prize list. In 1976, this was classified into Grades 1, 2, and 3, Grades 4, 5 and 6, Grades 7 and 8, and, lastly, into Grades 9, 10 and 11.

Seeds were ordered by the Convener of Agriculture for the garden section and were distributed in late April and early May to each family. There were cosmos, zinnias, and bachelor's buttons in the flower section and cucumbers, beets, and carrots in the vegetable section. In other years, different flowers had been tried, but it was found that the above three were more practical (with the

exception of marigolds) for the children.

On the prize list, certain hints were given to the exhibitors, such as:

1. Exhibits should be similar in size and shape.
2. Tops to be removed from carrots and beets (leave $\frac{1}{2}$ to 1 inch).
3. The largest does not necessarily win — quality counts.
4. The garden to be judged any time after August 10. The garden plot must be clearly marked "W.I." and, if possible, roped off from the family garden.

The Fair in 1976 was held on August 25 in the I.O.O.F. Hall at Inverness; last year it was in Kinnear's Mills.

Before the Convener of Agriculture had arrived at 11:45 a.m. to open up for 12 noon, some exhibitors were already waiting to place their exhibits. In the entrance hall one saw the sign "Welcome to the School Fair" above the door of the main hall. Then inside the Hall to the right of the exhibits appeared a larger sign of Welcome and at the back of the Hall, a sign in royal blue with the W.I. Crest in gold.

All exhibits were to be placed by 2 p.m. when the six judges, two for each section arrived. Parents and friends came in the evening.

In each section, eight prizes were given. One of the judges remarked that he found some sections of such exceptional quality that he wished he could give every exhibitor a prize. The Health Posters, he added, really told a story, and the birthday cards made by Grades 1, 2 and 3 left nothing to

be desired. The first prize card had a scroll around the edge with Happy Birthday printed in the centre and in the inside of the folded card a verse with birthday wishes, also neatly printed. Each exhibitor used the same birthday verse.

In the upper grades, worthy of mention were the tractors made by the boys from plastic bottles, or egg cartons. In the girl's section a mobile from bottle caps took first prize. The caps were suspended by thread, at different lengths, and dangled when in an air current. Another prize winner was a centrepiece from egg cartons.

We of another era are possibly apt to criticize the educational system of today and sometimes we wonder how a child learns in such apparent confusion as there has been recently. However, after a visit to a School Fair, and after seeing the neat books and handicrafts created by the pupils, one must acknowledge that the present system has merits of its own unknown in the days gone by.

Gumdrop Cookies

1/2 cup butter
1/2 cup brown sugar
1/2 cup white sugar
1 egg
1 teaspoon vanilla
1 cup flour
1/2 teaspoon baking powder
1/2 teaspoon baking soda
1/4 teaspoon salt
1/2 cup chopped nuts
1 cup quick-cooking oatmeal
1/2 cup sliced gumdrops

Cream together butter, sugars, and egg.
Add vanilla.

Sift together flour, baking powder, baking soda, and salt. Add nuts, oatmeal, and gumdrops to the flour mixture.

Pinch off a spoonful at a time onto greased cookie sheet. Press with a fork.

Bake in moderate oven about 10 minutes.

Stained Glass Windows

Set 3 — 3 oz jelly powders (1 green, 1 red, 1 orange)
Use 1 1/2 cups water rather than 2 cups
Let set until firm.

Line a square pan with a crumb crust:

1/3 cup melted butter
1/2 cup brown sugar
1 1/4 cups graham crumbs
Reserve some crumbs for top.

Dissolve 1 package unflavoured gelatin in 1/4 cup cold water. Add to 1 cup pineapple juice heated with 1/4 cup sugar. Cool but do not set.

Whip 2 packages commercial dessert topping.
Cut the pans of jelly into tiny squares and add to whipped topping along with the pineapple juice mixture. Combine gently and spread over crumb base. Sprinkle reserved crumbs on top. Let set in refrigerator.

Dear W. I. Members,

Perhaps when you read this, it will be on a clear, cold evening in mid-December when a cosy chair in the living room is inviting. Or it could be on a milder night — you remember those evenings, when big, lazy snowflakes float earthward, when it is a joy to be out. It seems as if Christmas were near. One thinks of that song "Love is Everywhere — I see it, etc." It's true. Love is everywhere! Possibly near the festive season it is just easier to find.

Many interesting reports have come in. We are very pleased to hear from **Hatley Centre**. They had a sales' table at the village fair and entered a float in the Dominion Day parade and tied for second prize. Prize winners in a contest at **Cleveland** on sweet peas grown from seed were (1) Mrs. Aline Healy, (2) Mrs. Violet Banfill. The judge was Mrs. Dapp. A late summer meeting of **Gore** branch took the

form of a tour of interesting places in Melbourne and South Durham. Each member invited a guest. At the meeting at **Richmond Hill** tuberous begonias were judged with (1) Mrs. Bailey, (2) Mrs. B. Beattie being the winners. Members of **Shipton** related memories or unusual happenings from school days. From **Quyong**, in Pontiac County, we learn that plans were being made for card parties and for a turkey supper. **Canterbury** held a Dutch auction with proceeds to buy a book or books for Pope Memorial School. A tea was held with **East Angus** and **Brookbury** W.I. as guests. Handicrafts and antiques were on display. Members from **Brookbury** branch visited Wales' Home to help celebrate a member's birthday. Citizenship convener Mrs. Black displayed kindergarten children's art work at **East Clifton**.

Compton Co. W.I. had an interesting display at the Cookshire Fair, each branch being responsible for an exhibition depicting some achievement they felt outstanding in their branch. The results were interesting and varied: a miniature school fair, replicas of the W.I. hall, a model of the County museum at Eaton Corner, a rock garden that once flanked the steps at the Bury Cemetery, and a copy of the East Angus Centennial playground. **Grand Cascapedia** branch celebrated their 25th anniversary with a party held in the W.I. hall.

At **Port Daniel**, 32 ladies were present at visitor's night. The meeting was held in the arena. Letters were read from the foster child in Bolivia, who was seven years old on November 14. From **Aubrey-Riverfield** we learn that a report was given on 4-H Achievement Day. Their guest speaker, Mrs. Ruth Graham, spoke on arthritis, stressing the importance of good diet with lots of milk, cheese, and protein foods, especially for senior citizens. At **Dewittville** the meeting was held at Little Denmark Shop. All enjoyed a tour of the flower shop, greenhouses, and a demonstration on making a terrarium

and cut flower arrangements. Members served coffee and doughnuts at the Plowing Match at Macdonald College. **Hemmingford** procured boxes for UNICEF for the children. The same can be said for **Inverness**. **Kinnear's Mills** made plans to cater for a banquet and packed a sunshine basket of home cooking for a friend who had been in hospital. **Dunham** commemorated the 65th anniversary of the branch by having dinner out. Among the guests were Mrs. Reda Lewis, County President, and Mrs. Ella Brown, daughter of the founder of the Q.W.I. **Fordyce** heard a report from a successful centennial card party and made plans to celebrate their 30th anniversary. At **Stanbridge East** cards for the benefit of mentally retarded were on sale. **Belvidere's** meeting took place at Loach's restaurant. Secretary Margaret Smith gave a short résumé of the branch, highlighting the years of service by the individual members. To quote, "our oldest and most dynamic member is Ethel Drummond and our 'baby' is Phyllis Hazard." At the supper hour Florence Page and Catherine Tarte were presented with 25-year service pins. Both **Lennoxville** and **Upper Lachute East End** heard reports on the plowing matches held at Macdonald College when the W.I. ladies helped with refreshments. **Brompton Road** invited a sister branch, **Lennoxville**, to their meeting. A cupcake contest was held with Dr. Kathleen Atto and Mrs. Hugh Wallace as judges, winners being Mrs. E. Decoteau and Mrs. G. Decoteau.

Matagami had the police chief as guest speaker. He spoke about the law and answered all questions regarding the enforcement of it in their town. The agriculture convener gave tips on the care of plants. "Never water an african violet with cold water. Always water it by the saucer and do not let the water touch the leaves or heart of the plant directly."

Mrs. George McGibbon presided at a meeting of **Lachute** branch when interesting and humourous accounts were given of the FWIC Convention. **Brownsburg** defrayed all expenses for a tour through the Laurentians for 75 senior citizens. The Women's Institute members of **Lakefield** entertained the same group at a delicious meal at the Anglican Church Hall in Lakefield. This is surely co-operation in a worthy undertaking! **Grenville** members were urged to make more visits to the sick and shut-ins.

Donations by the branches were many and varied: **Shipton** to the cancer society; **Richmond Young Women**, and **Bury** gave money towards pins for students at Pope Memorial School; **East Angus** donated towards new playground swings and slides, to cancer fund, and to lucky draw at Cookshire Fair; **Grand Cascapedia** gave \$100 to upkeep of Gaspesian Cultural Association Library and \$100 to Grade XI pupil chosen by staff in the English section of the Polyvalent School in Bonaventure in 1977; **Aubrey-Riverfield** to the 4-H Garden Club and to the handicraft club; **Cowansville**, **Dunham** and **Fordyce** all gave donations to help 1st. Cowansville Brownie Pack; **Matagami** gave to the English School Library and to the English teachers to help contest Bill 22, and **Waterloo-Warden** plans to give \$30 to local school cafeteria from receipts from a card party.

Some interesting roll calls were: a branch in Richmond County passed a book or magazine to her left-hand neighbour. **Spooner Pond**: Name a good farm smell. **Melbourne Ridge's** was to tell a joke with hilarious results. At **Waterloo-Warden** the members were asked to name a member of the Federal Government with his or her portfolio. **Granby West**: name a place in Canada you would like to visit and why. **Dalesville-Louisa**: give one way we can keep our country beautiful.

New members are reported in **Abercorn**, **Grenville**, and **Granby Hill**.

A number of branches reported having had interesting speakers. Mrs. Enright showed slides of **Port Daniel** at the meeting there. The Reverend Anderson showed slides and told about his three-year stay in Schefferville at the **Howick** meeting. Mrs. McRae spoke on the teacher's strike at **Quyon**. Some of the branches that assisted at school fairs were **Inverness**, **Hemmingford**, **Brompton Road**, **Milby**, and **Spooner Pond**.

From **Brome** County comes this noteworthy item. Mrs. G. F. Knights, County President, suggested starting a fund to help the famine-stricken countries. **Sutton** decided that each member, if she wished, bring vegetables, knitted articles, fruit, plants, novelties, etc. At the close of the meeting an auction is held, the proceeds to be sent to the Provincial Treasurer, earmarked Food for the Hungry Fund. This has proved to be very successful. This same County celebrated their 55th anniversary. **Austin** reports a very successful garden party. They donated \$1000 to the Memphremagog Library and \$50 to Ayer's Cliff School Fair. Publicity Convener, Mrs. H. K. Woodard reported that one of their Past Presidents stated: "Ours is a progressive organization. It will continue to take on new projects as the need arises. We fully believe it will grow and thrive and carry its responsibilities. The strength of our organization is the strength of individual members."

As the holiday season is drawing near, these few words are appropriate: May the Christmas story, so old yet ever new Bring it glorious message of hope and peace to you.

Gladys C. Nugent
QWI Publicity Convener

SOCIÉTÉ DES PARCS D'ENGRAISSEMENT DU QUÉBEC

QUEBEC FEEDLOT ASSOCIATION

Objectifs:

- 1 — Promouvoir la viande bovine au Québec.
- 2 — Améliorer la mise en marché des bovins d'abatage.
- 3 — Mieux informer les engraisseurs de bovins sur les techniques de productions.
- 4 — Représenter les producteurs auprès des organismes agricoles et gouvernementaux.

Premier Encan au Salon International de l'Agriculture et de l'Alimentation.

Encanteur: H. PAUL BERNARD, Encan La Ferme Inc.
Auctioneer:

Objectives:

- 1 — To promote beef in Quebec.
- 2 — To improve marketing of beef.
- 3 — To better inform feedlot operators about production techniques.
- 4 — To represent the producers in farm organizations and government.

First Auction: International Salon of Food and Agriculture.



Classification:	Poids Weight	Prix Price	Propriétaire Owner	Acheteur Buyer
1er Champion 1st Champion	1080 lbs.	\$6.75/lb.	Gaston Verreau, Ste-Brigitte	Boeuf Mérite Métro-Richelieu Inc.
Champion réserve Reserved Champion	1298 lbs.	\$5.25/lb.	Roda Farms, St-Anicet	Lépine-Laurier Inc. Lépine-Polansky Inc. Lépine-Pesner Inc.
Troisième Third	1135 lbs.	\$3.60/lb.	Gaston Verreau, Ste-Brigitte	Mario Macioca and Sons Max Fried
Quatrième Fourth	1100 lbs.	\$2.00/lb.	Grégoire Potvin, Farnham	Boeuf Mérite Métro-Richelieu Inc.
Cinquième Fifth	1090 lbs.	\$1.32/lb.	Jean van Gennip, Farnham	Canada Packers
Sixième Sixth	1190 lbs.	\$0.71/lb.	Grégoire Potvin, Farnham	Beausoleil Métro Beausourire Inc.

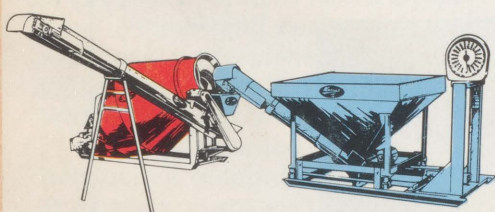
Pour plus d'information: M. ORANCE MAINVILLE,
Sec. Trés.

For further information: SOCIÉTÉ DES PARCS D'ENGRAISSEMENT DU QUÉBEC
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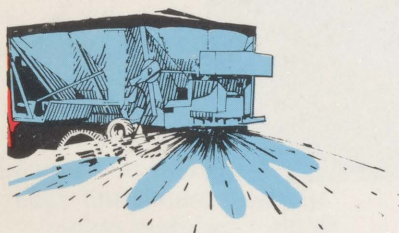


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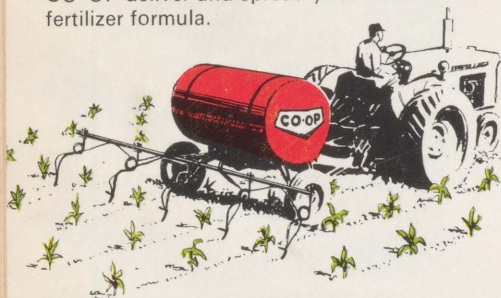
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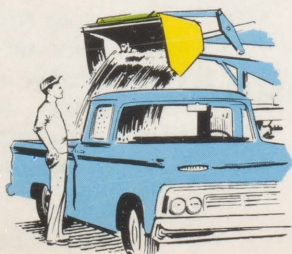


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